AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for controlling the operation of at least a first hydraulic actuator and a second hydraulic actuator, the method comprising:

[[-]] setting with a monitoring valve ~~(10)~~ the minimum or maximum pressure of the pressure medium led to the second actuator,

[[-]] adjusting the pressure of the pressure medium led to the second actuator in a predefined pressure ratio with the pressure led to the first actuator, and

~~characterized in that~~ controlling a reference pressure led to the monitoring valve ~~(10) is controlled~~ to define a specific pressure level of the first actuator, above which level pressure ratio control is active.

2. (Currently Amended) A monitoring valve comprising at least:

a body ~~(26)~~,

an elongated slide ~~(20)~~ having a first end and a second end, and arranged to a space in the body ~~(26)~~, and movable in the longitudinal direction in said space,

at least one force element that is arranged to act on the first end of the slide ~~(20)~~ to move the slide ~~(20)~~ towards a first direction of travel ~~(B)~~, ~~and~~

at least one controllable channel ~~(6')~~ that is arranged to open and close by the longitudinal movement of the slide ~~(20)~~, ~~characterized in that~~ and wherein

the slide ~~(20)~~ has at least one collar ~~(23)~~,

a sleeve ~~(42)~~ is arranged around the slide ~~(20)~~,

the body ~~(26)~~ has a space, inside which the collar ~~(23)~~ and the sleeve ~~(42)~~ are arranged to move,

the outer rim of the sleeve ~~(42)~~ is sealed to the body ~~(26)~~ and the inner rim of the sleeve is sealed to the slide ~~(20)~~,

the sleeve ~~(42)~~ defines a first chamber ~~(31)~~ and a second chamber ~~(30)~~ on opposite sides of the sleeve ~~(42)~~, and said chambers ~~(30, 31)~~ are not connected to each other,

the first chamber ~~(31)~~ is connected at least to a first pressure channel,

the second chamber ~~(30)~~ is connected at least to a second pressure channel,

the sleeve ~~(42)~~ is arranged to move in the first ~~(B)~~ or the second ~~(A)~~ direction of travel depending on the pressure difference inside the chambers ~~(30, 31)~~, and

in one direction of travel, the sleeve ~~(42)~~ is arranged to act on the axial position of the slide ~~(20)~~ when abutting on the collar ~~(23)~~.

3. (Currently Amended) A monitoring valve as claimed in claim 2, ~~characterized in that~~ wherein

the sleeve ~~(42)~~ is arranged to abut on the collar ~~(23)~~, on the same side as the force element ~~(12)~~,

the first chamber ~~(31)~~ is on the force element ~~(12)~~ side of the sleeve ~~(42)~~ and the second chamber ~~(30)~~ is on the collar ~~(23)~~ side of the sleeve,

the first chamber ~~(31)~~ is connected to a sensing channel ~~(9)~~,

the second chamber ~~(30)~~ is connected to a reference channel ~~(40)~~, and

the sleeve ~~(42)~~ is arranged to push via the collar ~~(23)~~ the slide ~~(20)~~ towards the first direction of travel ~~(B)~~, if the pressure of the sensing channel ~~(9)~~ is higher than that of the reference channel ~~(40)~~.

4. (Currently Amended) A monitoring valve as claimed in claim 2, ~~characterized in that~~ wherein

the sleeve ~~(42)~~ is arranged to abut on the collar ~~(23)~~, on the opposite side of the collar ~~(23)~~ with respect to the force element ~~(12)~~,

the first chamber ~~(31)~~ is on the force element ~~(12)~~ side of the sleeve ~~(42)~~ and the second chamber ~~(30)~~ is on the on the opposite side of the sleeve ~~(42)~~,

the first chamber ~~(31)~~ is connected to a reference channel ~~(40)~~,

the second chamber ~~(30)~~ is connected to a sensing channel ~~(9)~~, and

the sleeve ~~(42)~~ is arranged to push via the collar ~~(23)~~ the slide ~~(20)~~ towards the second direction of travel ~~(A)~~, if the pressure of the sensing channel ~~(9)~~ is higher than that of the reference channel ~~(40)~~.

5. (Currently Amended) A monitoring valve as claimed in ~~any one of claims 2 or 4~~ claim 2, ~~characterized in that~~ wherein

the force element is a spring ~~(12)~~ and the pushing force of the spring ~~(12)~~ is adjustable.

6. (Currently Amended) A monitoring valve as claimed in ~~any one of claims 2 to 5~~ claim 2, ~~characterized in that~~ wherein

the second end of the slide ~~(20)~~ is arranged tightly to a bore ~~(27)~~ in the body ~~(26)~~,

the pressure of the controllable channel ~~(6')~~ is arranged to act on the end surface of the second end of the slide ~~(20)~~,

the bore ~~(27)~~ is connected to at least one transverse discharge channel ~~(11)~~, and

the second end of the slide ~~(20)~~ is arranged to open and close the connection between the controllable channel ~~(6')~~ and discharge channel ~~(11)~~.

7. (Currently Amended) A monitoring valve as claimed in ~~any one of claims 2 to 6~~ claim 2, ~~characterized in that~~ wherein

the monitoring valve ~~(10)~~ is arranged to adjust the pressure variation of the controllable channel ~~(6')~~ in a predefined ratio with the pressure variation of the sensing channel ~~(9)~~, and

the pressure ratio of the monitoring valve ~~(10)~~ is determined by the ratio of the end surface area of the sleeve ~~(42)~~ to the cross-surface area of the second end of the slide ~~(20)~~.

8. (Currently Amended) A monitoring valve as claimed in claim ~~3~~ 2, ~~characterized in that~~ wherein

the sleeve is arranged to abut on the collar, on the same side as the force element,

the first chamber is on the force element side of the sleeve and the second chamber is on the collar side of the sleeve,

the first chamber is connected to a sensing channel,

the second chamber is connected to a reference channel,

the sleeve is arranged to push via the collar the slide towards the first direction of travel, if the pressure of the sensing channel is higher than that of the reference channel, and

the action of the sleeve (42) is arranged to increase the pressure of the controllable channel (6') at a given ratio, when the sleeve (42) abuts on the collar (23) of sleeve (42) on the same side as the force element (12).

9. (Currently Amended) A monitoring valve as claimed in claim [[4]] 2, ~~characterized in that~~ wherein

the sleeve is arranged to abut on the collar, on the opposite side of the collar with respect to the force element,

the first chamber is on the force element side of the sleeve and the second chamber is on the on the opposite side of the sleeve,

the first chamber is connected to a reference channel,

the second chamber is connected to a sensing channel,

the sleeve is arranged to push via the collar the slide towards the second direction of travel, if the pressure of the sensing channel is higher than that of the reference channel, and

the action of the sleeve (42) is arranged to decrease the pressure of the controllable channel (6') at a given ratio, when the sleeve (42) abuts on the collar (23) of sleeve (42) on the opposite side of the force element (12).

10. (Currently Amended) A rock drilling apparatus comprising ~~at least~~:

a percussion apparatus ~~(71)~~,

a feed apparatus ~~(73)~~,

a hydraulic system, to which the percussion apparatus ~~(71)~~ and feed apparatus ~~(73)~~ are connected, and at least one hydraulic pump ~~(1)~~ for supplying hydraulic pressure to the hydraulic system,

at least one compensator valve ~~(5')~~ in the pressure medium channel leading to the percussion apparatus ~~(71)~~, and at least one second compensator valve ~~(5)~~ in the pressure medium channel leading to the feed apparatus ~~(73)~~ for adjusting the operation of the percussion apparatus and feed apparatus, respectively, ~~and~~

at least one monitoring valve ~~(10)~~ for setting the minimum pressure of the pressure medium led to the percussion apparatus ~~(71)~~ and for adjusting the pressure of the pressure medium led to the percussion apparatus ~~(71)~~ in a predefined pressure ratio with the pressure led to the feed apparatus ~~(73)~~, ~~characterized in that~~ and wherein

a reference pressure channel ~~(40)~~ is connected to the monitoring valve ~~(10)~~ and the control of the pressure in the channel is arranged to provide a specific pressure level of the feed apparatus ~~(73)~~, above which level the feed pressure activates the pressure ratio control on the percussion apparatus ~~(71)~~.

11. A rock drilling apparatus ~~comprising at least~~ as claimed in claim 10, wherein

~~a percussion apparatus (71),~~

~~a feed apparatus (73),~~

~~a hydraulic system, to which the percussion apparatus (71) and feed apparatus (73) are connected, and at least one hydraulic pump (1) for supplying hydraulic pressure to the hydraulic system,~~

~~at least one compensator valve (5) in the pressure medium channel leading to the feed apparatus (73) for adjusting the operation of the feed apparatus, and~~

~~at least one monitoring valve (10) for setting the minimum pressure of the pressure medium led to the percussion apparatus (71) and for adjusting the pressure variation of the pressure medium led to the percussion apparatus (71) in a predefined pressure ratio with the pressure variation of the feed apparatus (73),~~

~~characterized in that a reference pressure channel (40) is connected to the monitoring valve (10) and the control of the pressure in the channel is arranged to provide a specific pressure level of the feed apparatus (73), above which level the feed pressure activates the pressure ration control on the percussion apparatus (71).~~

the pressure of the feed apparatus is determined by setting in the load-sense circuit of the feed apparatus a first relief valve and a second relief valve mounted respectively in the direction of the load-sense flow,

the reference channel of the monitoring valve is connected in-between the first relief valve and the second relief valve,

the first relief valve acts on the feed pressure and the percussion pressure in a predefined pressure ratio, and

the second relief valve acts on the feed pressure only.

12. (Canceled)

13. (Currently Amended) A rock drilling apparatus as claimed in ~~any of the claims 10-12~~ claim 10, ~~characterized in that~~ wherein

the rock drilling apparatus comprises at least one restrictor ~~(82)~~ sensitive to the actual flow of the feed apparatus ~~(73)~~,

the restrictor ~~(82)~~ is arranged in the feed circuit to the feed apparatus ~~(73)~~ and induce feed pressure variation depending on the penetration rate,

the feed pressure variation simultaneously biases the monitoring valve ~~(10)~~ to control with pressure ratio the pressure variation on the percussion apparatus ~~(71)~~.

14. (Currently Amended) A rock drilling apparatus as claimed in claim [[13]] 10, ~~characterized in that~~ wherein

the rock drilling apparatus comprises at least one restrictor sensitive to the actual flow of the feed apparatus,

the restrictor is arranged in the feed circuit to the feed apparatus and induce feed pressure variation depending on the penetration rate,

the feed pressure variation simultaneously biases the monitoring valve to control with pressure ratio the pressure variation on the percussion apparatus, and

the restrictor ~~(82)~~ of the feed apparatus ~~(73)~~ is formed on a spool biased by a spring and hydraulic pressures on both ends, so that the restrictor area may be hydraulically controlled and be progressively restricted from its initial preset value down to a zero area, for drilling in difficult rock.

15. (Newly Added) A rock drilling apparatus comprising:

a percussion apparatus,

a feed apparatus,

a hydraulic system, to which the percussion apparatus and feed apparatus are connected, and at least one hydraulic pump for supplying hydraulic pressure to the hydraulic system,

at least one compensator valve in the pressure medium channel leading to the feed apparatus for adjusting the operation of the feed apparatus,

at least one monitoring valve for setting the minimum pressure of the pressure medium led to the percussion apparatus and for adjusting the pressure variation of the pressure medium led to the percussion apparatus in a predefined pressure ratio with the pressure variation of the feed apparatus, and wherein

a reference pressure channel is connected to the monitoring valve and the control of the pressure in the channel is arranged to provide a specific pressure level of the feed apparatus, above which level the feed pressure activates the pressure ratio control on the percussion apparatus.

16. (Newly Added) A rock drilling apparatus as claimed in claim 15, wherein

the pressure of the feed apparatus is determined by setting in the load-sense circuit of the feed apparatus a first relief valve and a second relief valve mounted respectively in the direction of the load-sense flow,

the reference channel of the monitoring valve is connected in-between the first relief valve and the second relief valve,

the first relief valve acts on the feed pressure and the percussion pressure in a predefined pressure ratio, and

the second relief valve acts on the feed pressure only.

17. (Newly Added) A rock drilling apparatus as claimed in claim 15, wherein

the rock drilling apparatus comprises at least one restrictor sensitive to the actual flow of the feed apparatus,

the restrictor is arranged in the feed circuit to the feed apparatus and induce feed pressure variation depending on the penetration rate, and

the feed pressure variation simultaneously biases the monitoring valve to control with pressure ratio the pressure variation on the percussion apparatus.

18. (Newly Added) A rock drilling apparatus as claimed in claim 15, wherein

the rock drilling apparatus comprises at least one restrictor sensitive to the actual flow of the feed apparatus,

the restrictor is arranged in the feed circuit to the feed apparatus and induce feed pressure variation depending on the penetration rate,

the feed pressure variation simultaneously biases the monitoring valve to control with pressure ratio the pressure variation on the percussion apparatus, and

the restrictor of the feed apparatus is formed on a spool biased by a spring and hydraulic pressures on both ends, so that the restrictor area may be hydraulically controlled and be progressively restricted from its initial preset value down to a zero area, for drilling in difficult rock.